quantized coefficient having a level value of not 0 and a k–1th quantized coefficient that has a level value of not 0 and is nearest to the kth quantized coefficient, among the 1st to nth transformed quantized coefficients.

14. The data encoding apparatus of claim **13**, wherein the one or more processors are configured to execute the computer-readable instruction such that the one or more processors are configured to determine the additional rounding offset values by using the number of quantized coefficients having a level value of 0 between the kth quantized coefficient and the k–1th quantized coefficient.

15. The data encoding apparatus of claim **14**, wherein the one or more processors are configured to execute the computer-readable instruction such that the one or more processors are configured to determine the additional rounding offset values by using a lookup table previously stored in memory.

16. The data encoding apparatus of claim **14**, wherein the one or more processors are configured to execute the computer-readable instruction such that the one or more processors are configured to determine the additional rounding offset values based on a first equation.

17-31. (canceled)

32. A data encoding apparatus, comprising:

a memory storing computer-readable instructions; and

one or more processors configured to execute the computer-readable instruction such that the one or more processors are configured to,

receive first video data,

determine a first multiplication value using a lookup table based on a prediction mode associated with the first video data,

determine a first rounding offset value based on the first multiplication value, determine a first quantized coefficient based on the first rounding offset value and the first video data,

determine a distance value based on a distance between two non-zero coefficient units in the first quantized coefficient,

determine a second multiplication value based on the distance value,

determine a second rounding offset value based on the second multiplication value,

determine a second quantized coefficient based on the second rounding offset value and the first video data, and

determine an output bit stream based on the second quantized coefficient.

33. The method of claim **32**, wherein determining the first multiplication value using the lookup table based on the prediction mode associated with the first video data comprises:

transforming the first video data from a spatial domain into a frequency domain to create a transformed coefficient,

the prediction mode being a prediction mode associated with the transformed coefficient.

34. The method of claim **32**, wherein determining the output bit stream based on the second quantized coefficient comprises:

performing an entropy coding on the second quantized coefficient to generate the output bit stream.

35. The method of claim **32**, wherein the first quantized coefficient includes a first plurality of coefficient units, and the first plurality of coefficient units includes the two non-zero coefficient units.

36. The method of claim **32**, wherein determining the distance value comprises:

arranging the first plurality of coefficient units one-dimensionally; and

determining the distance between the two non-zero coefficient units with respect to the one-dimensionally arranged first plurality of coefficient units.

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